

CA JOURNAL

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CAA Study Forecasts Vast Increase in Aviation Jobs

"Civil Aviation and the National Economy," first comprehensive study of the industry's possibilities during the next ten years, has been published by the Civil Aeronautics Administration.

The 159-page presentation by the CAA's Office of Aviation Information predicts that civil aviation by 1955 will be able to provide more than three-quarters of a million new jobs.

It forecasts "a 30 percent annual increase in aircraft as they acquire greater utility and more airports are provided," with the result that "there will be more than 400,000 civil airplanes in use in the United States by 1955."

Uses Classified—Of the 400,000 aircraft, the study says, 280,000 will be used for personal business and recreation; 40,000 by business concerns to speed up their sales and administration activities; and 80,000 by commercial aircraft services in crop-dusting, aerial photography and other nonscheduled operations.

In addition, the report predicts that airlines will carry 20 million passengers in domestic operations during 1955, and 2 million passengers to foreign points.

Attainment of these goals, the book states, is dependent on a Federal program of assistance to civil aviation, essentials of which are a national airport plan; pilot training and aviation education; and technical aids such as an improved airways system.

Positive Program Necessary—The study warns that a positive program is needed to take advantage of the present "ideal combination of circumstances for aviation growth." It points out that "the end of the war has released aviation facilities which will go to seed unless immediate concrete steps are worked out."

A total of 901,300 jobs in or created by aviation is predicted for 1955, compared with 142,300 in 1939. While jobs in civil aviation will be "but a small proportion of the total number of jobs envisioned in the postwar economy," the book points out, "yet in terms of new jobs created, the industry will rank high. This one business can provide almost 6 percent of all the new jobs required to achieve substantially full employment."

Estimating that it would cost more than a billion dollars a year to create an equivalent amount of work on a WPA basis, the study proposes that a sum one-tenth that size be expended for Federal aid to private enterprise in civil aviation.

Personal Flying Important—The greatest field

for the immediate expansion of civil aviation, according to the report, exists in the development of personal flying. Personal aircraft today are seen as being in a stage comparable to the automobile at the turn of the century.

"During the decade 1900-10, automobile registrations increased at the rate of approximately 48 percent a year, reaching a total of 468,500 in 1910. Two factors contributed primarily to this growth: The improvement in the vehicle itself—through more de-

(See *Aviation Jobs*, page 131)

CAA Men Study Peace Uses of ATC Facilities

Worldwide facilities installed and operated by the Army's Air Transport Command can and should be used in peacetime air travel, but the high standards of safety established by the Civil Aeronautics Administration must be maintained.

This is the major conclusion of three veteran CAA officials who recently completed a trip around the world as guests of the ATC, examining air operations and facilities along a 37,000-mile route, and visiting 42 places.

The group consisted of Fred M. Lanter, Assistant Administrator for Safety Regulation; Chris M. Lample, Acting Director, Air Navigation Facilities

(See *Facilities*, page 126)

Forecast 900,000 Aviation Jobs in 1955

The 1955 employment forecast in "Civil Aviation and The National Economy" places the number of jobs expected at 901,300.

This book may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 55 cents.

The 1955 employment forecast is divided as follows:

	Basic	Derived	Total
Manufacturing.....	307,900	151,900	459,800
Air-Carrier Operations.....	165,500	41,400	206,900
Non-Air Carrier Operations ¹	100,000	50,000	150,000
Airports.....	39,900	19,700	59,600
Government.....	20,000	5,000	25,000
All Aviation.....	633,300	268,000	901,300

¹ Includes personal flying, business flying in company-owned planes, and miscellaneous operations of commercial air services, such as rentals, instruction, aerial photography, crop dusting and other activities.

John H. Geisse Sees Roadable Plane As Big Boon to Private Aviation

Roadable airplanes will increase private flying, "contribute to the solution of the problem of inaccessible airports" and free private fliers from their present bondage to weather, John H. Geisse, Assistant to the Administrator for Personal Flying Development, told the Society of Automotive Engineers meeting in Detroit recently.

Timid investment of capital on the part of the industry, and its hesitancy in the face of the problems involved in developing a roadable plane are repeating the "pattern of 1929 to 1939", Mr. Geisse said.

Mr. Geisse covered private flying in all its phases; projecting its development into the future, and, in many instances, paralleling its possibilities with the growth of the automobile industry. Employment opportunities were stressed.

Personal Planes Important—The backlog demand for consumer goods, which accumulated during the war emergency, will not suffice, Mr. Geisse asserted, to bring to full realization our necessary expansion of peacetime economies. What must be bought should be augmented by new products which might be purchased if sufficiently attractive. Personal airplanes which will offer a service worth the cost were among the major items in this category.

Improved rental service is particularly important, Mr. Geisse said, declaring that "the most promising postwar activity that I know of will be the 'Fly Yourself' services, which will permit you to rent an airplane at one city and turn it in at another."

Two things will affect growth of private flying—the number of airports and improved airplanes. Building airports is the taxpayer's job. A better airplane, which means a quieter, more useful airplane, is the responsibility of the airplane industry.

"There is no question in my mind," said Mr. Geisse, "as to the possibility of producing an entirely satisfactory roadable airplane at a reasonable cost. But to produce it requires vision and daring—not nearsightedness and timidity. Certainly there will be problems to solve. But progress is made by solving problems, not by evading them."

"The roadable airplane would permit the owner to start his airplane trip from his home and end it at his final destination."

Conditions in 1939—"In 1939 there were approximately 13,000 airplanes in non-scheduled operation and they flew roughly 178,000,000 miles. This represents an annual expenditure on non-scheduled flying of about \$20 million. All surveys of the postwar market for non-scheduled flying with which I am familiar, indicate that the public is prepared to increase this expenditure to over \$1 billion per year. This is an increase of not 5 or 10 to 1, but 50 to 1. Translated into terms of employment, the \$20 million expenditure corresponds to the earnings of 10,000 workers at \$2,000 per year. The \$1 billion expenditure corresponds to the earnings of 500,000 at \$2,000 per year.

"Improved rental service is particularly important. We may well have 4,500,000 pilots within 10 years. I do not expect that we will have 4,500,000 airplanes, or even 1,000,000 airplanes; 450,000 would be more likely, which would provide a ratio of pilots to planes of 10 to 1. Some of this unbalance will be taken care of by club ownership, but for the most part it will have to be accommodated by airplane rentals.

"The most promising postwar activity that I know of will be the 'Fly Yourself' services. There will be many, many pilots who will not have a sufficiently strong desire to fly to devote special time to satisfy this desire flying around an airport. But they would, if they could, combine their flying trips that they would have to make anyway by some other means of transportation. Such a service would be able to obtain a high factor of utilization of its equipment

and hence should be able to bring the cost of such service down to where there would not be much, if any, increase in the expense of the trip."

Employment in Aviation—"Recently the CAA, cooperating with the AAF, made a survey of air services returnees' intentions, or rather desires, relative to employment. The survey indicated that 47 percent of the officers and 33 percent of the enlisted personnel want employment in aviation. This corresponds to approximately 150,000 officers and more than 500,000 enlisted men. Undoubtedly there are many other veterans who were not in the Army air services who will also be seeking positions in aviation.

"These men want jobs—they have earned them. The consumers want what they have to offer—they are entitled to receive it. But, it is going to require confidence, imagination and daring on the part of all of us to make it possible for these would-be producers to supply the wants of the would-be consumers. The consumer must be provided with the required purchasing power and the producers must be enabled to produce the kind of service the consumer expects to be able to get and is willing to pay for."

Element of Competition—"In the immediate postwar period it is true that the airplane will have to compete for the consumer's dollar with many other articles for which there is a war-created backlog. But the mistake should not be made of assuming that satisfying these pent-up desires will solve our economic problem. After they have all been satisfied we will still have to have a 40 percent increase over 1939 consumer expenditures to keep people employed. It will be definitely advantageous to our economy if whatever new services or products we are going to have are introduced before this backlog is filled so that there will not be a need for a sudden break.

"Surplus aviation material, if made available at prices substantially under replacement costs, can aid materially in the establishment of new air carrier services. Although it may be true that initial cost of equipment is not a major factor in the cost of operations of existing airlines where the equipment has a high utilization, this is not true when a low utilization factor exists.

"Personally, I cannot agree with those who believe that surplus equipment should be held at a high price or destroyed in order to provide jobs in its rebuilding.

"We have only scratched the surface in the development of non-scheduled flying. The progress made in the development of military flying in the few years of war by an all-out development program should tell us now what can be done in improving non-scheduled flying if we possess the confidence, the imagination, and the daring required to do the job."

Thoburn C. Lyon Resigns From Coast and Geodetic

Thoburn C. Lyon, cartographic engineer with the U. S. Coast and Geodetic Survey, resigned his position, effective Oct. 19.

Mr. Lyon after several years' service in the engineering department of the District of Columbia joined the Survey's staff in 1931. Among the books he has written is Practical Air Navigation, issued by the Civil Aeronautics Administration.

Need for a protracted rest was given by Mr. Lyon as the reason for his resignation. He plans later to operate as a consultant on air navigation charts.

Sommers Detailed to Civilian Staff of Gen. 'Ike' Eisenhower

Assignment of John E. Sommers, aircraft control officer of the Civil Aeronautics Administration to General Eisenhower's civilian staff as an aviation expert is announced by T. P. Wright, Administrator of Civil Aeronautics. Mr. Sommers, whose long and comprehensive aviation experience makes him particularly well qualified for the job of restoring civilian aviation in Germany and Austria, left Washington early in November.



John E. Sommers

He was appointed as an airport specialist in March 1928, and has served the CAA in many capacities: Aeronautical inspector, aeronautical engineering inspector, regional supervisor, and regional manager of the first region, are some of the positions he held before becoming deputy administrator in November 1942. When Mr. Wright took office as Administrator, Mr. Sommers was appointed aircraft control officer.

Mr. Sommers will join Fred H. Grieme, former chief of the Airport Section of the Technical Development Division of CAA, who departed from Washington recently on a similar assignment. They will serve with Major General Robert W. Harper, head of the Air Division of Group Control.

Mr. Sommers, who is married, was born in Clifton Springs, N. Y., in 1896; he received his Bachelor of Science degree in Aeronautics from the University of Michigan, and served as an ensign in the Navy in the first World War.

His duties with the Army are expected to keep him in Europe for approximately one year.

Air Carriers Report Volume and Return Increases for 1945

Substantial increases in the net revenues and volume of services given by domestic air carrier lines is shown in current reports of the Civil Aeronautics Board. The figures cover the activities of nineteen domestic lines.

During the first seven months of 1945 mail-ton miles flown increased by 47.75 percent; express-ton miles went up by 59.44; revenue miles increased by 56, 74 and revenue passenger miles by 59.90. The figures in each classification are net.

The airlines flew 94.26 percent of their scheduled mileage in the first seven months of this year. Of the 1941 average available seats per mile, about 88.40 percent were occupied by revenue passengers, as compared with 18.86 average available seats of which 89.51 percent were occupied by revenue passengers for the corresponding seven months last year.

The average airplane load on the commercial airlines during the first seven months of this year was 17.16 passengers, 704.7 pounds of mail, and 250.2 pounds of express, as compared with 16.88 passengers, 758.1 pounds of mail and 246.0 pounds of express for the corresponding period in 1944.

The net revenue miles flown by the nineteen lines in June increased by almost half a million dollars, \$470,505. For the fiscal year the total revenue was \$44,666,235 compared with that of 1944 which was \$26,643,878.

Many Ask Certificates For Routes in Alaska; Hearings in Territory

Eighteen companies and individuals applied to the Civil Aeronautics Board during November for either certificates of public convenience or permits to do business as non-scheduled operators in Alaska. Eight of these hearings have been heard and the ten remaining will be held, beginning Nov. 16, at Anchorage and Fairbanks.

The hearings will be conducted under the supervision of Raymond W. Stough, director of the CAB Alaska office, and Joseph L. Fitzmaurice will act as examiner.

Yukon Valley Service—The application of the Toussaint Air Service for a certificate to transport persons, property and mail between Fort Yukon and Fairbanks and that part of the Upper Yukon Valley which includes Circle, Rampart House, Arctic Village, Venetie Stevens Village and Birch Creek Village will be heard in the Federal Building at Fairbanks, Nov. 16.

Top O' The World Flying Service is asking a certificate or exemption order and the hearing is scheduled for Nov. 19, Federal Building, Fairbanks. On the same day and at the same place the application of the Arctic Air Service for a certificate will be heard.

Ask Chamber Service Permit—The application of William L. Lavery and Raymer S. Brown, doing business as Lavery Airways, for a certificate to transport persons, property and mail within the Territory of Alaska in non-scheduled or charter service between Fairbanks, Anchorage and Paxton's Lake is to be heard at Fairbanks, Nov. 20.

The application of the Martin Air Service for a certificate is down for the same day and the same place.

Application of the Northern Air Service for a certificate to conduct charter operations in transportation of a general nature will be heard Nov. 21 at Fairbanks.

Woodley Airways and Pacific Northern Airlines have asked for the approval of certificate transfer and that application will be heard at the office of the CAB at Anchorage, Nov. 26.

The Larson Alaskan Distributing Co. seeks a certificate and its application is down for hearing Nov. 27 at the CAB Anchorage office.

Hakon Christensen, doing business as the Christensen Air Service, has applied for a certificate and will be heard at Anchorage, Nov. 28.

November docket of applications for Alaskan certificates will close with the hearing of the Peninsula Flying Service request for a certificate which will be held Nov. 30 at Anchorage. The company asks authorization to operate in non-scheduled charter service, transporting persons, property and mail, with bases at Saldovia and Anchorage.

New Airworthiness Rules Summary Issued by CAB; Reconversion Aid

Anticipating urgent requests from manufacturers, the Civil Aeronautics Board has issued a summary of its new regulations relating to airworthiness requirements for transport aircraft. The action was inspired by the urgent need for such information to speed reconversion and decrease unemployment during the transition period.

Complete Text Soon—A complete text of these new regulations, CAR Part 04, will be issued in the very near future, the Board announces.

The Board's decision provides:

1. The new regulations become effective optionally on the adoption date of the new Part. Compliance will be mandatory for types of which the prototype is first flown on or after January 1, 1948, except in those cases where the Administrator finds that the design was well advanced at the time of adoption of the new regulations and that the subsequent delay was beyond the manufacturer's control.

2. The present fixed numerical limit on stalling speed will be removed in favor of the more realistic limitations imposed by the various interrelated requirements with respect to handling qualities and performance, particularly those with respect to climb and airport size.

3. All minimum rate-of-climb requirements in the cruising configuration, whether with all engines operating or with one or two engines stopped, and for both type certification and operating requirements, shall be met with the cowl flaps set for adequate engine cooling under the "standard hot-day condition."

4. There shall be a minimum rate-of-climb in the cruising configuration with all engines operating at maximum continuous power which shall be a function of the stalling speed.

5. There shall be a minimum rate-of-climb with one engine inoperative in the cruising configuration at 5,000 feet as a basis for type certification which shall vary with the gross weight of the airplane as follows: $0.02 V_{so}^2$ —up to 40,000 pounds, varying linearly to $0.04 V_{so}^2$ at 60,000 pounds, and $0.04 V_{so}^2$ above 60,000 pounds.

6. For airplanes with 4 or more engines there shall be a minimum requirement based on stalling speed for the rate-of-climb in the cruising configuration with 2 engines inoperative and with maximum continuous power on the remaining engines.

7. Clear and distinctive stall warning shall be apparent to the pilot at a speed at least 5 percent above the stalling speed with flaps and landing gear in any position and in either straight or turning flight. The warning may be furnished through the aerodynamic qualities of the airplane, by a suitable instrument, or in any equivalent fashion which will give clearly distinguishable indications under all conditions of flight that are to be expected in airline operations.

8. Aircraft may be certificated at a take-off weight not in excess of 105 percent of the landing weight without means for dumping fuel. Higher take-off weights not in excess of 130 percent of the landing weight may be authorized provided it is possible to jettison fuel so as to reduce the weight to the landing weight at a rate of one percent of the weight per minute.

9. Separate airworthiness requirements establishing a cargo category will not be drawn up at this time. No convincing need in justification of two separate standards of airworthiness for passenger and cargo aircraft was presented by those recommending such a separate category.

Factors Considered—Some of the most significant factors upon which the Board based its decision to eliminate a fixed stalling speed limit follow:

(a) The evolution of aircraft design, from the very beginning, has included a gradual increase in stall-

ing speed from approximately 30 mph in the original Wright airplane to nearly 70 mph in the DC-3, most used of modern transport airplanes.

(b) The elimination of a fixed stalling speed limit is consistent with the practice of all other countries and with the United States proposal for "airworthiness requirements for civil aircraft engaging in international air navigation" as presented to the International Civil Aviation Conference at Chicago last November. Despite this lack of regulatory restriction in other countries as well as in this country with respect to military aircraft, there has been no tendency for stalling speed to increase abruptly. As advances in the art of aircraft and powerplant design have made it possible to increase the economically realizable cruising speed, the stalling speed has increased less rapidly than in direct proportion to the cruising speed.

(c) Since the institution of airworthiness regulation in the United States in 1926 the maximum allowed stalling speed has been raised progressively from 50 mph to 80 mph. The maximum allowed by regulation has been kept reasonably in step with the maximum that a designer would have found desirable to use, even had there been no regulatory compulsion. The limits established by regulations have been advanced progressively as it became clear that the previously existing limit was imposing a serious handicap on design for maximum performance and efficiency.

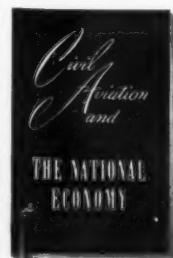
(d) The establishing of a fixed numerical value for the minimum stalling speed imposes an unjustifiably severe limitation on design, particularly in the matter of the permissible gross weight, which is out of proportion to its significance as a single item of safety.

(e) Notwithstanding these increases in stalling speed, the safety of air transport operations has shown a steady and rapid advance.

(f) Irrespective of the stalling speed of a particular type of aircraft in air carrier service, operating limitations will continue to be imposed by the CAA with respect to ceiling and visibility minimums, airport runway length, navigation facilities, and in other respects which will take proper account of the actual stalling speed as well as all other pertinent factors relating to the particular aircraft involved.

(g) Certain other requirements with respect to minimum climb are being introduced into the regulations which will be compensating factors in case of actual increases in stalling speed. Two of these, namely, minimum rate-of-climb with all engines operating and minimum rate-of-climb with 2 engines inoperative for aircraft with 4 or more engines, are stated as functions of the actual stalling speed; hence, the required rates will increase with any increase in stalling speed.

A third requirement also stated as a function of the stalling speed provides for a minimum en route rate-of-climb with one engine inoperative. While this basic requirement has been in the regulations heretofore, the minimum value will now increase with an increase in size of the aircraft. Since larger aircraft typically have relatively higher stall speeds this modification will also tend to serve as a compensating factor. A fourth compensating factor is the requirement that there be clear and distinctive stall warning apparent to the pilot at a speed at least 5 percent above the stalling speed under all conditions of flight that are to be expected in airline operations.



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Trans-Canada Gets CAB Carrier Permit For Alaska Service

The Civil Aeronautics Board announces the issuance to Trans-Canada Air Lines of a foreign air carrier permit to operate between Whitehorse, Yukon Territory, and Fairbanks, Alaska. Presidential approval has been given.

The permit was issued in accordance with the terms of an agreement between the United States and Canada, effective Feb. 19, 1945, which provides one Canadian and one United States air carrier may conduct operations over this route.

Although the permit is issued to Trans-Canada, operations are to be conducted temporarily for one year by Yukon Southern Air Transport, Ltd., a wholly-owned subsidiary of the Canadian Pacific Railway Company.

Member Josh Lee agreed with the majority of the Board in its issuance of the permit to Trans-Canada, but did not agree with approval of arrangements whereby operations on this route are to be conducted by Yukon Southern Air Transport.

Mr. Lee said that, "since there is no assurance that Trans-Canada intends to operate this route sometime in the future, and since the record leaves considerable doubt as to whether Yukon Southern is substantially owned and effectively controlled by nationals of Canada, I cannot agree that the route should be operated by that carrier."

Decision of Board Modifies

Braniff Service on Route 15

Braniff Airways has been granted permission by the Civil Aeronautics Board to provide service to Denver, Colorado Springs and Pueblo, Colo., on flights originating or terminating at Oklahoma City, Okla., Fort Worth and Dallas, Tex., or at points south or east of those places on its route 15.

The change is a modification of the line's certificate of convenience and will enable it to provide a through-plane service between the Colorado cities it serves and points east of Oklahoma City on the extension of its Oklahoma City-Memphis route which was recently authorized. The restriction preventing Braniff from conducting turnaround schedules between the Colorado cities remains unchanged.

Braniff's route 15 authorizes it to engage in scheduled air transportation of persons, property, and mail between Denver, Colo., and Fort Worth, Tex., with intermediate stops at Colorado Springs and Pueblo, Colo., Amarillo, Lubbock, and Wichita Falls, Tex.; between Dallas, Tex. and Memphis, Tenn. with intermediate stops at Amarillo, Tex., Oklahoma City, Tulsa, and Muskogee, Okla., and Fort Smith and Little Rock, Ark.; between Dallas and Brownsville, Tex., with intermediate stops at Fort Worth, Waco, Austin, San Antonio, and Corpus Christi, Tex.; and between Dallas and Galveston, Tex., with intermediate stops at Fort Worth, Waco, and Houston, Tex.

Amends British Airline Permit

The Civil Aeronautics Board temporarily amended the foreign air carrier permit of British Overseas Airways Corporation to authorize it to conduct operations through the winter months from the United Kingdom of Great Britain and Northern Ireland to Baltimore, Md. via Lisbon, points in West Africa, Trinidad and Bermuda.

This amendment provides the airline may conduct services over the South Atlantic route during the period when operations are not feasible over the North Atlantic route.

Plett Is Named to Succeed Hoppin as Region Eight Head

Appointment of Walter P. Plett as administrator of the eighth region, Alaska, of the Civil Aeronautics Administration, is announced by T. P. Wright, Administrator of Civil Aeronautics. Mr. Plett succeeds Marshall C. Hoppin, who resigned to join Alaskan Airways.



Walter P. Plett

In 1939, Mr. Plett was transferred to Alaska as senior airways engineer, and the same year became assistant superintendent of airways there. At about that time, the CAA began its vigorous preparation of the airways for war use, and when Plett became superintendent of airways in 1941, he directed the establishment of aeronautical communications facilities all over the Territory, and the construction of CAA and Army airports which played such an important part in the defense of Alaska. He worked in close cooperation with Mr. Hoppin, and has been in intimate touch with developments there.

His knowledge of Alaska and its dependence upon the airplane for its maximum development is extensive, and has been gathered through personal travel and work throughout the Territory. Like most CAA representatives there, he is enthusiastic about the possibilities of settlement of large areas and development of wealth by the use of the airplane, the only vehicle usable throughout the Territory the year around. He will direct the application of a great volume of war surplus to the uses of commercial flying, and supervise the inevitable growth of the CAA enterprises there.

Rountree Returns to Air Job

With the war ended and after nearly 40 months service with the Army Air Forces, including overseas duty, Capt. Asa Rountree, Jr., has resumed the position of Director of Aeronautics for Alabama, from which he has been on military leave.

Capt. Rountree is an overseas Air Force veteran of both World War I and World War II. In World War I he served overseas in France for nearly 18 months as a pilot. He was called to active duty in 1942.

The Propeller Menace

Observance of five rules would greatly reduce, if not entirely eliminate, accidents caused by persons walking into airplane propellers, the Civil Aeronautics Board points out.

The rules suggested by the Board are: Do not idle your engine near crowds. Nose your airplane away from crowds when stopping or parking. Keep your hand on the switch when taxiing near persons. Warn your passengers of the menace of the propeller. Enplane and deplane passengers from the rear only.

Mr. Plett joined the CAA in 1934 as an assistant radio engineer, and learned first-hand the problems of design, installation and operation of airways facilities in service throughout the United States. His previous work with the Westinghouse Company, the Boston Edison Company and the Lamson Company in Syracuse supplemented his training as an electrical engineer at Northeastern University, where he graduated in 1927. He was born in South Boston in 1906.

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Henry A. Wallace
Secretary of Commerce

Civil Aeronautics Administration
T. P. Wright, Administrator

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Q—Are airplanes used by physicians to reach patients in areas where land travel is difficult or impossible? H.A.E.

A—Stories about flying physicians have been carried by newspapers and magazines. Recently an aviation publication had an account of Dr. Fred W. Minty, Rapid City, in the Black Hills of South Dakota, who flies to his patients in that rugged, broken country.

Q—Are figures available on the operations of the Turkish State Airlines, a government monopoly? F.C.

A—The Foreign Commerce Weekly, a Department of Commerce publication, carried figures on operations for the first eight months of 1944 over six fixed routes. The revenue passenger miles flown during the period totaled 434,916. The record for the previous year was 255,000.

Q—Can the Journal give me any figures on the speed of airplanes across the United States from east to west? N.T.K.

A—Newspapers recently reported a flight from Miami, Fla., to Burbank, Calif., a distance of 2,355 miles in seven hours and 53 minutes, which is believed to be a record.

Comment on New Part 42

Held Open Until Jan. 31, '46

The time limit for suggestions and criticisms of the proposed new Part 42 of Civil Air Regulations has been advanced by the Civil Aeronautics Board to Jan. 31, 1946. The original closing date was Oct. 1 and the wide interest in the proposed changes and the urgent representations of the trade led to the extension of time.

New Part 42 would provide for the issuance of operating certificates and establish rules governing the operations of non-scheduled air carriers.

The Board has been informed that during the next three months many aeronautical organizations throughout the United States will hold meetings at which those in attendance will have an opportunity to discuss the subject draft release and that many valuable comments and suggestions may be received from the discussions at such meetings.

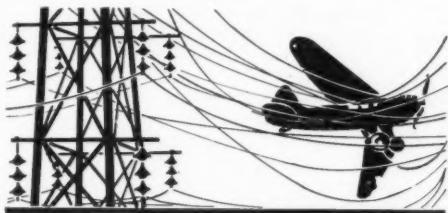
Hits Guy Wire—Collision with a power line guy wire while on a cross-country flight caused destruction of the aircraft and fatal injuries to pilot David Dale Huntley of Spokane, Wash. The accident occurred near Troh's Airport, Portland, Ore.

Huntley, 28, held a commercial certificate with a single-engine land 0-80 hp rating. He had accumulated 394 solo hours, 20 of which were in the type plane involved.

Huntley took off from Eugene, Ore., on the final leg of a flight from Los Angeles to Portland. About an hour later the plane was observed in the vicinity of Troh's Airport, about 4 miles from its destination. Just beyond the airport, at an altitude of about 900 feet, Huntley closed the throttle and made a gliding turn of 180°. The steepness of the glide was then increased and several "S" turns were made. Following this, the plane struck and severed a horizontal guy wire 25 feet above the ground, and then crashed on a road 1100 feet west of the airport.

Investigation revealed no indication of failure of any part of the aircraft. At the time of impact little or no power was being developed.

One gallon of fuel remained in the tank. This would indicate that Huntley might have been attempting a precautionary landing, although the resi-



dential area in which the accident occurred was not suitable. Although the pilot was only a short distance from Troh's Airport it is doubtful he saw it because of morning mist and smoke. Also, the airport is uniformly green and difficult to distinguish from the air. Huntley had slept only 13 hours in the preceding 88 and physical exhaustion may have impaired his faculties.

The pilot's failure to see and avoid wires while effecting a precautionary landing was the probable cause of this accident.

The Hazard of Stunting—Reckless flying resulting in a stall and spin proved fatal to student pilots Paul Goodson of Los Angeles, and Marvin Luther Smith of Tipton, Calif. The aircraft was extensively damaged.

Goodson, 21, held a student certificate and had accumulated 45 hours flying time. Smith, 23, also held a student certificate and had flown 50 hours, about 14 of which were in the type plane involved.

The two pilots took off from the Whiteman Air Park, San Fernando, Calif., for a cross-country flight to Fresno. Smith was in the front seat which is normally occupied by the pilot. Upon arriving over Tipton, a dive was made on the house of a friend of Smith. Following this dive, the aircraft was pulled up in a steep climb to an altitude of about 800 feet. Here a left turn was started during which the plane was stalled. It made about one-quarter turn of a left spin before striking the ground on its nose and left wing.

No evidence of malfunctioning of the aircraft or any of its components prior to impact was found. Dual controls were installed and it is believed that Smith was piloting although Goodson had been listed as pilot on the previously filed flight plan. Smith had been known to fly low and recklessly in this vicinity before.

Reckless flying, which resulted in an inadvertent spin from which recovery was not effected was the probable cause of the crash.

Low Stall Causes Crash—A stall during a simulated forced landing resulted in fatal injury to instructor Frank Edward Temple of Alhambra, Calif., and student Mary Dell Murrell of Pasadena, and destruction of the aircraft. The accident occurred near El Monte, Calif.

Temple held a commercial certificate with single-engine land, 0-250 hp and flight instructor ratings. He had flown 1340 hours. Miss Murrell held a student certificate and had flown solo about 42 hours.

Student and instructor took off from the El Monte Airport for a check flight on maneuvers required to pass a private pilot's flight test. Fifty-five minutes later the aircraft was observed descending, with reduced power, toward open country northeast of the airport. A turn was made into the wind, and when only a few feet above the ground, power was applied. The nose dropped, the left wing went down, and the plane crashed and burned.

There was ample fuel and no evidence of any malfunctioning of the aircraft or controls. Apparently, the simulated forced landing was continued to a point close to the ground where the plane stalled and crashed before recovery was effected.

The instructor's permitting a simulated forced landing beyond safe limits was a contributing factor to this accident.

Lack of Vigilance—Collision of two airplanes during the take-off climb caused serious injuries to pilot Helen Ilene Baxter, of Beaverton, Ore., and her student, Wm. Earl Snell, of Salem, Ore. Pilot Walter Charles Walling, and his passenger, Floyd W. Hall, both of Portland, Ore., were not injured. Both aircraft received major damage.

Mrs. Baxter held a commercial certificate with single-engine land 0-80 hp and instructor ratings. She had flown 1500 hours, all in the type plane involved. Snell was a student pilot with approximately 2 hours of solo flight time. Walling held a private certificate with a single-engine land 0-80 hp rating and had flown 70 hours. Hall, his passenger, held no airman ratings.

Instructor Baxter, accompanied by student Snell, took off from Beaverton Airport to practice landings at the nearby Hillsboro, Ore., Municipal Airport. Walling, accompanied by Hall, left Beaverton and also flew to the same airport. Upon arrival, Instructor Baxter proceeded to give Snell "touch-and-go" landings on the NW-SE runway, correctly following the traffic pattern for each landing. On the fourth take-off, after Mrs. Baxter's plane had reached an altitude of about 100 feet, and at a point where the two runways converged at right angles, the propeller of her plane struck the empennage of Walling's plane. Walling had just made a "touch-and-go" landing on the NE-SW runway.

Mrs. Baxter's plane dived and struck the runway at an almost vertical angle with power on. Walling heard and felt the other aircraft strike his plane, which also became uncontrollable. It turned to the right in a glide, struck the ground, and turned over.

Both the landing "tee" and wind sock were visible for quite a distance. The swinging tee oscillated considerably and possibly caused Walling to believe he had used the correct runway. However, a smaller fixed tee, officially designating the runway to be used, was set for the runway used by Mrs. Baxter.

Walling observed the other aircraft taking off toward the southeast but believed he did not have enough space to turn and therefore pulled up in a steep climb assuming there would be ample clearance for Mrs. Baxter's plane beneath him.

This accident was caused by lack of vigilance on the part of both pilots. A contributing factor was Walling's use of the wrong runway.

The Price of Recklessness—While "buzzing" the house of a girl friend at Phoenix, Ariz., student pilot Richard Hamilton Pulis of Phoenix, stalled his



plane and crashed. He was fatally injured and the aircraft extensively damaged.

Pulis, a certificated student pilot, had flown only 11 hours, slightly less than two of which were solo.

He was assigned to practice various maneuvers in an area south of Sky Harbor Airport. Later he flew to a point six and a half miles northwest of the airport where he circled low and began zooming the house. During this time he threw out bits of paper and opened and closed the throttle, apparently to attract attention. Following the last dive, which was to within 50 feet of the ground, the plane was pulled up sharply and stalled. It crashed 75 feet west of the girl's residence. Initial impact was on the left wing while the plane was in almost vertical descent.

Investigation disclosed no evidence of failure or malfunctioning of any part of the aircraft. Witnesses stated the engine appeared to be operating normally.

Reckless flying which terminated in a stall at an altitude too low for recovery was the probable cause. A contributing factor was the limited experience of the pilot.

Failed to Use Reserve—During an emergency landing following engine stoppage, instructor Robert Lewis Hamlin undershot the Detroit City Airport seriously injuring himself and student Frank Alan Newberry. The aircraft was destroyed.

Hamlin, 37, held a commercial certificate with a single-engine land, 0-330 hp and flight instructor ratings. He had flown about 2500 hours including 15 in the type plane involved. Newberry, 25, held a private certificate with a single-engine land, 0-80 hp rating. He had flown about 285 hours.

The two took off from Detroit City Airport on a local instruction flight. After one hour, during which practice landings were made on a neighboring field, they headed toward the airport and entered the traffic pattern. While on the downwind leg, at an altitude of about 500 feet, the engine sputtered and a steep descending turn was made. During the descent, the wings were rocked steeply from side to side, apparently to signify an emergency landing. The plane lost altitude rapidly and while banked, the right wing tip struck a 20-foot gravel pile at the south boundary of the field, cartwheeled, skidded over railroad tracks, and stopped on a pile of scrap metal.

The instructor could not recall what happened. The student remembered the engine stopping and turning the controls over to the instructor.

The fuel selector valve was in the "main on" position. This aircraft was placarded, "Take off and land on reserve." The subject type 24-gallon fuel tank contains a three-gallon sump reserve which does not flow to the carburetor when the fuel valve is turned to the main tank. Three gallons of fuel were drained from the tank following the accident. Therefore, had Hamlin switched to the reserve fuel supply there was every indication that engine stoppage would have been averted.

Engine stoppage due to the pilot's failure to switch to reserve fuel was the probable cause of the crash.

CAA Approves Several New Types and Models

The following new type engines and propellers have been approved by the CAA. In addition, new models have been added to previously type certificated propellers and appliances. Approval numbers and dates of approval appear in parenthesis.

Engines—

New Types

Aircooled Motors, Franklin models 4AL-225-A2 and -A3, -B2 and -B3, -C2 and -C3, -D2 and -D3, -E2 and -E3, -F2 and -F3, -G2 and -G3; 4 cyl. horizontally opposed aircooled. Rated, with two different specified compression ratios, from 75 hp at 1950 rpm to 100 hp at 2550 rpm. Starter and generator provisions are available on the "3" models. Dry weights are 191 lbs. and 198 lbs., respectively, for the "2" and "3" models. (Type Certificate No. 239, 9-27-45)

Aircooled Motors, Franklin models 6AL-335-A3, -B3, -C3, -D3, -E3, -F3; 6 cyl. horizontally opposed aircooled. Rated, with two different specified compression ratios, from 125 hp at 2200 rpm to 150 hp at 2600 rpm. Starter and generator provisions are available. Dry weight 280 lbs. (Type Certificate No. 238, 9-25-45)

Propellers—

Hartzell, model 1A 2-blade propeller with 7214 blades; steel hub with plastic blades; 72 in. diameter; adjustable pitch; 75 hp, 2600 rpm. (Type Certificate No. 824, 9-13-45)

Curtiss, model C634S propeller with 1016-3C4-18 blades; steel hub with hollow steel blades; 16 ft. 6 in. diameter; electrically controllable feathering; 1200 hp, 1050 rpm. (Type Certificate No. 825, 9-21-45)

Curtiss, model C644S propeller with 1016-3C4-18 blades; steel hub with hollow steel blades; 16 ft. 8 in. diameter; electrically controllable feathering; 2100 hp, 1050 rpm. (Type Certificate No. 826, 9-24-45)

Fahlin, model D-738; wood; 84 in. diameter; 79 in. pitch; 160 hp, 1850 rpm. (Type Certificate No. 827, 9-26-45)

Fahlin, models 44K15005 and D-785; wood; 85 in. diameter; pitch; (model 44K15005) 59 in., (model D-785) 59 in. to 57 in.; 185 hp, 2550 rpm. (Type Certificate No. 828, 9-26-45)

G. B. Lewis, models L12R, L12RA, and L12RB; wood; 86 in. diameter; 64 in. to 44 in. pitch; 200 hp, 2450 rpm. (Type Certificate No. 829, 9-28-45)

New Models

Curtiss, model C542S propeller with 528-1C2-12 blades; steel hub with hollow steel blades; 10 ft. 0 in. diameter; electrically controllable feathering; 1200 hp, 1667 rpm. (Type Certificate No. 792, 9-18-45)

Curtiss, model C542S propeller with 836-1C2-6 blades; steel hub with hollow steel blades; 14 ft. 0 in. diameter; electrically controllable feathering; 1625 hp, 1275 rpm. (Type Certificate No. 792, 9-18-45)

Curtiss, model C532S propeller with 528-1C2-12 blades; steel hub with hollow steel blades; 10 ft. 0 in. diameter; electrically controllable feathering; 1200 hp, 1667 rpm. (Type Certificate No. 735, 9-20-45)

Hartzell, model 8222L; wood; 82 in. diameter; 80 in. to 76 in. pitch; 145 hp, 2050 rpm. (Type Certificate No. 503, 9-10-45)

Fahlin, models D-780 and 43K15131; wood; 86 in. diameter, 62 in. pitch; 180 hp, 2450 rpm. (Type Certificate No. 533, 9-11-45)

Fahlin, model D-580; wood; 69 in. diameter; 50 in. pitch; 85 hp, 2575 rpm. (Type Certificate No. 681, 9-11-45)

Sensenich, model 72GA; wood; 72 in. diameter; 54 in. to 46 in. pitch; 80 hp, 2650 rpm. (Type Certificate No. 782, 9-13-45)

Sensenich, models 86AA, 86AAS, 86AB, 86ABS, 86AC and 86ACS; wood; 86 in. diameter; 60 in. to 50 in. pitch; 200 hp, 2450 rpm. (Type Certificate No. 586, 9-18-45)

Flottorp, model 96CA; wood; 96 in. diameter; 64 in. to 60 in. pitch; 225 hp, 2100 rpm. (Type Certificate No. 809, 9-27-45)

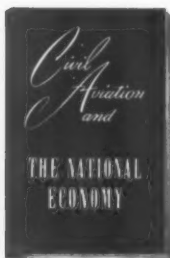
Sensenich, model 74FCT; wood; 74 in. diameter; 52 in. to 46 in. pitch; 75 hp, 2300 rpm. (Type Certificate No. 765, 9-24-45)

Appliances—

Russell, safety belt, model AE-308. Approved for one or two persons. (Type Certificate No. 90, 9-4-45)

PCA Announces Service Increase

Pennsylvania-Central Airlines will become the first of the nation's domestic airlines to operate a full fleet of giant postwar four-engined passenger planes, according to C. Bedell Monro, president of PCA, who said the first of these postwar super-speed planes will be flying passengers before the end of 1945.



For sale (55 cents per copy)
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ATC Facilities Studied For Peacetime Air Travel

(Continued from first page)

Service; and J. L. Kinney, Acting Director, Flight Operation Service. All are veterans of the CAA, and their years of service as employees in the Federal Government's aviation service total 50 years.

Officials Consulted—Civil aviation officials in all the countries visited were consulted and the experts gathered first-hand information regarding facilities, terrain, general weather conditions and the attitude of other nationals toward possible American operations by air into their countries. Their conclusions reveal that facilities required for extensive international air travel already are in existence even though they are military in character and will require adaptation.

Praise for the tremendous job of air transport done by the ATC throughout the world features their report.

"The extent of the ATC operations," the report states, "makes it by far the largest air transport operation ever conceived, and the job that has been done by this organization is stupendous. In many cases, the problems were peculiar to the areas involved. Due to military necessity, these problems had to be solved immediately by whatever means were available at the moment. While in some instances these solutions could not be countenanced in civil aviation, they are nevertheless a monument to the determination, perseverance and ingenuity of those involved."

They were particularly warm in praise of the "Green Project" which involved the return of selected personnel from the European theater to the United States for reassignment to the Orient. The "timing, precision and methodical manner" of the execution of this job, "probably the largest air transport passenger operation that has occurred anywhere to date," was "extremely impressive."

Conclusions Reached—Following are the conclusions of the three experts:

There is, and perhaps always will be, a wide difference between military transport operations and commercial operations of a similar character.

The system of navigation facilities and the proposed plan for international airways, as conceived by CAA and generally agreed to at the International Conference in Chicago are sound and essential.

The CAA should not relax its requirements for navigational facilities for civil air carriers. Proper maintenance of these facilities is as important as their installation.

There should be no relaxation of CAA standards for pilot and crew competence. If anything, these should be strengthened on navigation and meteorology.

Foreign operations over large expanses of jungle, huge bodies of water, vast areas of desert and mountainous terrain, requiring that once a flight is started it be completed, makes a very high standard of maintenance of aircraft and engines extremely important.

Strict load and center of gravity control is very important, particularly when the aircraft is being operated above its landing weight. CAA aircraft design and performance regulations should be studied to eliminate any possibility of marginal characteristics in this regard.

CAA's proposal to the Civil Aeronautics Board which resulted in the elimination of an arbitrary landing speed for air transports is sound. This will allow commercial operation with increased loads, which will be a safe compromise between our present limitations and the loads carried by the Army under emergency conditions.

The structures of aircraft used in the ATC have taken excess loads very well, even though maintenance required has been greater. Thus, the CAA is right in reconsidering regulations that apply to gross loads, and arbitrary landing speeds.

Carefully selected CAA personnel should be sta-

CAB Employees' Promotions Are Announced By Chairman

Charles O. Cary has been named a special assistant to the Civil Aeronautics Board and Miss Marian L. Newman moves up to succeed him as executive assistant to the Chairman of the Board. Mr. Cary has served as executive assistant since July 1944, and Miss Newman, as secretary to the Chairman since March 1942. The appointments were announced by the Chairman.

Prior to his connection with the Board, Mr. Cary was superintendent of operations and general traffic manager of Alaska Airlines, Anchorage, Alaska.

As special assistant to the Board, Mr. Cary will act as liaison representative between the Board and the various air carriers on matters not otherwise reported to the Board through established channels. In order to develop the closest coordination between the Board and the industry, he will confer with airline personnel on economic, labor, operational and developmental problems. This will permit the Board to learn promptly first-hand of industry problems and concerns, not only of a policy nature but also the day-to-day problems of the actual operation and the people conducting it.

Miss Newman has been with the Board since it was organized in August 1938. For about three and a half years she was the Board's recording secretary, and since March 1942, she has been the secretary to the chairman. In both her work as recording secretary for the Board and as secretary to the Chairman, Miss Newman has had opportunity to become conversant with all the affairs of the Board.



Charles O. Cary

tioned in each of the countries through which our airlines will pass. These men should be properly equipped, and furnished with all assistance necessary to maintain the prestige of United States aviation in these countries.

These representatives must be paid salaries and expenses commensurate with the cost of living in the countries where they serve, and comparable to the recompense given by other countries to their representatives.

Lack of promptness on the part of U. S. aviation is causing customers to purchase equipment and seek advice elsewhere. All U. S. aviation, both government and private, must realize that prompt and efficient action is necessary in competing for postwar markets.

It is not impossible, regardless of weather or terrain, to establish adequate air navigation facilities and a high degree of regularity of scheduled service in civil air carrier operations.

Immediate action ought to be taken by the U. S. to obtain permanent control of certain landing areas and associated facilities when they are de-activated by the military service. Among these are certain Pacific islands, not needed so much as regular stops, or as fueling stops as for the alternate or emergency destinations.

A U. S. technical mission should be dispatched immediately to the Philippine Islands to survey for the establishment of civil airways there, and to tie in the Philippines with existing and proposed international routes. Limited operations there should be started at once.

Advances Made In Air Traffic Control

(Continued from last page)

lines) circuits. The teletype lines connect the control center with the CAA airway communication stations in its area, and are used primarily for the transmission of flight plans, flight progress reports and arrival reports." (Note—Figures for part of 1945)

"Today, the CAA's air traffic control service, employing 1500 control personnel, protects an average of 33,000 landings and take-offs at airports, and 51,500 en route movements of aircraft each day. While the present system of air traffic control in this country has served well over 57,000,000 aircraft movements during the war, the CAA is among the first to recognize that this system has many deficiencies. Plans and proposals to improve air traffic control are briefly outlined in the remainder of this article.

"The present air traffic rules are believed to be basically adequate and will continue to stand as they have for the past 8 years, without fundamental change but with progressive refinements. 'One important necessity is that the air traffic rules be adopted on a world-wide basis to insure international uniformity in the interest of encouraging international air transportation. The International Civil Aviation Organization convening in Montreal this fall should make possible the realization of this objective.

"Airports are the focal point at which the efficiency of the air traffic control system is judged. It must be borne in mind, therefore, that air traffic control can be efficient only if airport design and spacing are adequate for the traffic flow involved.

"This means that airports must have sufficient runway capacity, taxiing facilities and loading ramp capacity to meet the needs of the population area being served. Aircraft must be able to taxi, take off and land without interference and with minimum delay. Moreover, if traffic density requires several airports to serve a given area, these airports must be spaced so that there will be no interference between the various aircraft using the different airports."

Ground Facilities—"Assuming that the airport problem can be solved satisfactorily, the next step in improving air traffic control is through the provision of improved navigation and communication facilities. The CAA plans to establish VHF radio ranges for airway flying of the visual two-course or omni-directional type, VHF instrument landing systems at airports and VHF communication facilities in airport traffic control towers and airway communication stations. These VHF facilities will provide increased reliability in navigation and communication, static-

Operators At Control Center Board



free operation and greater flexibility in regulating traffic density.

"One additional ground facility is planned for the relatively near future. This is the use of radar in airport traffic control towers. With radar screens before him, an airport traffic controller will be able to guide the flow of traffic to and from his airport during instrument weather conditions in a much more expeditious manner due to the positive knowledge he will have of the aircraft movements under his jurisdiction. An experimental unit of this type is expected to be placed into operation on a service test basis at one of the CAA control towers within the next few months."

Airborne Equipment—"Aircraft will need suitable VHF navigation and communication equipment to use the new VHF ground facilities being provided. However, there is another airborne piece of equipment under development which has great promise of simplifying and improving the air traffic control service. This is an instrument which would be installed on the instrument panel of all aircraft to be flown under instrument flight rule weather conditions and would indicate to the pilot relative separation between his aircraft and other aircraft in the near vicinity. A device of this nature, known as a "vertical separation indicator", has been under development by the CAA for nearly 4 years, but completion of the project has been somewhat delayed due to wartime manufacturing and priority problems. However, it is expected that several indicators of this type will be

available for service testing this fall. Such a device, while primarily designed to assist pilots in avoiding collision with other aircraft, also appears to have possibilities as an obstruction indicator.

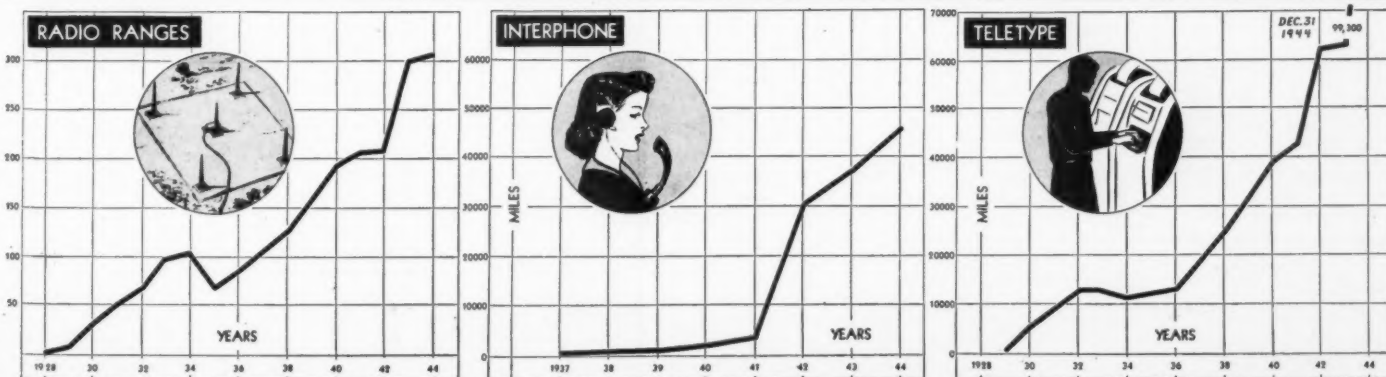
"A more long-range development is the matter of automatic air traffic control devices. Into this category falls a device which would constantly portray to the pilot the altitude at which he is to fly, and would visually portray traffic control instructions such as clearances to descend, climb and hold.

"It is believed that the present concept of air traffic control, including the air traffic rules and the air traffic control service, are basically sound and will meet the needs of the foreseeable future by streamlining, improving and refining the system along the following lines: 1. Establishing international uniformity in rules of the air and air traffic control practices. 2. Providing properly designed and adequately spaced airports. 3. Completing a program of ground and airborne equipment involving the use of (a) VHF navigation and communication facilities; (b) radar in airport traffic control towers; (c) a vertical separation indicator in aircraft as a supplemental or auxiliary device to assist the pilot, and (d) an automatic communication system to replace manual methods of handling movement and control messages.

"On a longer range basis," Mr. Gilbert recommended "expanding the automatic ground communication system to provide automatic traffic control linkage between ground and aircraft."

Airways Communication Control Systems Shown

Interphone and Teletype graphs represent miles of wire in service including "drop lines" during the years indicated.



Domestic Air Carrier Statistics

Operations for September 1945

Prepared from official reports, submitted by the air carriers listed, to the Civil Aeronautics Board

Operator and routes	Revenue miles flown	Revenue passengers carried ¹	Revenue passenger miles flown	Express carried (tons)	Express ton-miles flown	Passenger seat-miles flown	Revenue passenger load factor (per cent)
All American Aviation, Inc., Pittsburgh-Huntington, Jamestown, Williamsport, Harrisburg, Washington..... Total	127,660	0	0	5.2	776	0	—
American Airlines, Inc., Total	4,185,907	118,739	72,310,450	733.0	434,875	79,141,975	91.37
Dallas-Los Angeles.....	1,383,847	26,573	24,670,722	112.0	99,255	26,284,770	93.86
New York-Chicago.....	614,970	27,836	10,517,290	217.0	11,808	11,616,069	90.54
Boston-New York.....	272,645	27,834	4,900,338	73.0	6,886	5,562,328	88.10
Cleveland-Nashville.....	96,176	7,235	1,813,917	30.0	13,996	1,991,636	91.08
New York-Ft. Worth.....	1,227,598	34,356	20,073,916	177.0	132,184	22,177,777	90.51
Washington-Chicago.....	161,456	7,574	2,925,226	35.0	23,240	3,167,033	92.36
Chicago-Ft. Worth.....	231,875	8,909	4,125,305	47.0	164	4,519,262	91.28
Buffalo-Toronto.....	4,191	1,052	77,367	2.0	32,290	88,137	87.78
El Paso or Fort Worth-Mexico City.....	193,149	3,687	3,206,369	40.0	3,734,963	85.85	
 Braniff Airways, Inc., Total	765,088	32,835	13,877,805	70.9	27,017	15,223,418	91.16
Chicago-Dallas.....	402,377	15,109	7,497,065	27.7	16,424	7,782,645	96.33
Denver-Brownsville; Amarillo-Oklahoma City.....	328,602	17,701	5,764,276	31.0	9,575	6,700,416	86.03
Houston-New Laredo.....	34,109	3,580	616,464	12.2	1,018	740,357	83.27
 Chicago & Southern Air Lines, Inc., Total	502,172	19,996	8,548,106	57.5	23,649	10,466,907	81.67
Chicago-New Orleans.....	261,018	12,140	4,719,051	37.0	15,976	5,422,778	87.02
Memphis-Houston.....	241,154	9,821	3,829,055	20.5	7,673	5,044,129	75.91
 Continental Air Lines, Inc., Total	337,241	11,179	4,865,313	7.0	2,691	6,083,101	79.98
Denver-El Paso-San Antonio.....	205,006	7,122	2,714,233	4.5	1,745	3,380,130	80.30
Pueblo-Tulsa.....	33,432	1,911	536,686	.5	130	697,750	76.92
Denver-Kansas City.....	98,803	2,954	1,614,394	2.0	816	2,005,221	80.51
 Delta Air Corporation, Total	581,065	27,371	9,726,959	50.0	17,318	12,159,175	90.00
Charleston or Savannah-Fort Worth.....	512,665	23,319	8,420,912	38.0	13,503	10,722,775	78.53
Atlanta-Cincinnati.....	68,400	4,296	1,306,047	12.0	3,815	1,436,400	90.93
 Eastern Air Lines, Inc., Total							
Boston-San Antonio or Brownsville.....							
Boston-Miami.....							
Chicago-Jacksonville.....							
Atlanta-Miami.....							
Washington-St. Louis.....							
 Inland Air Lines, Inc., Total	149,972	4,999	1,532,768	4.1	949	2,104,705	72.83
Denver-Great Falls.....	116,090	4,251	1,283,561	3.7	852	1,782,422	72.01
Cheyenne-Huron.....	33,882	748	249,207	.4	97	322,283	77.33
 Mid-Continent Airlines, Inc., Total	356,595	17,004	5,170,371	15.4	4,600	6,485,224	79.73
Minneapolis-Tulsa.....	234,422	11,275	3,645,211	12.8	3,893	4,674,845	77.98
Minneapolis-Des Moines, St. Louis or Kansas City.....	122,173	5,729	1,525,660	2.6	767	1,810,379	84.27
 National Airlines, Inc., Total	568,001	12,237	6,767,618	16.7	9,421	7,684,478	88.67
New York-Key West via Miami.....	418,247	9,092	4,870,229	9.2	6,493	5,608,297	86.84
Jacksonville-New Orleans.....	149,754	4,791	1,897,389	7.5	2,928	2,076,181	91.39
 Northeast Airlines, Inc., Total	252,787	20,062	4,521,771	18.3	3,420	5,811,267	77.81
Boston-Montreal or Presque Isle and Moncton.....	127,781	9,202	2,093,209	6.0	1,052	2,941,683	71.16
Boston-New York.....	125,006	10,860	2,428,562	12.3	2,368	2,869,584	84.63
 Northwest Airlines, Inc., Total	1,233,792	34,577	22,880,092	87.3	53,351	25,181,016	90.86
Chicago-Twin Cities; Seattle; Fargo-Winnipeg.....	971,303	34,765	18,147,288	67.1	30,539	20,056,019	90.48
Minneapolis-Duluth.....	6,048	—	—	.2	27	—	—
Minneapolis-New York.....	256,441	6,578	4,732,804	20.0	13,785	5,124,997	92.35
 Pennsylvania-Central Airlines Corp., Total	1,108,012	70,862	19,949,688	243.0	63,163	23,003,549	86.72
Norfolk-Detroit.....	581,689	46,587	10,361,962	122.0	26,633	12,084,932	85.74
Detroit-Milwaukee or Chicago.....	254,013	22,808	4,783,967	65.0	15,348	5,258,538	90.53
Washington-Buffalo.....	20,121	1,374	351,090	2.0	338	421,098	82.26
Pittsburgh-Buffalo.....	24,097	2,149	431,445	8.0	1,503	504,131	85.58
Pittsburgh-Birmingham.....	228,092	9,646	4,021,224	46.0	10,341	4,708,280	85.41
 Transcontinental & Western Air, Inc., Total	2,828,027	52,828	45,481,100	443.0	234,299	49,933,933	91.06
New York-Los Angeles.....	1,780,667	39,807	28,668,201	241.0	147,674	30,989,664	92.51
Dayton-Chicago.....	43,941	3,259	808,720	14.0	3,294	879,738	91.93
Winslow-San Francisco.....	230,987	10,004	3,774,474	28.0	10,463	4,051,123	93.17
Kansas City-Pittsburgh via Chicago.....	485,458	12,517	7,564,287	106.0	57,452	8,249,862	91.69
St. Louis-Detroit via Cincinnati and Dayton.....	127,793	8,333	2,110,414	34.0	6,972	2,636,350	80.05
Washington-Dayton via Columbus.....	97,175	4,490	1,553,440	15.0	5,598	1,870,874	83.03
Pittsburgh-Boston.....	62,006	2,227	1,001,564	5.0	2,846	1,256,322	79.72
 United Air Lines, Inc., Total	3,616,267	74,705	57,045,197	381.0	329,958	60,407,027	94.43
New York-San Francisco.....	2,737,403	40,453	40,232,720	268.5	282,781	42,486,169	94.70
Salt Lake City-Seattle.....	186,105	7,887	3,767,588	21.1	12,608	4,220,751	89.26
Seattle-San Diego.....	534,104	25,990	10,173,960	66.4	26,430	10,536,037	96.56
Seattle-Vancouver.....	16,472	1,372	291,332	3.2	496	312,884	93.11
Washington-Toledo.....	63,833	3,126	1,231,644	6.8	2,663	1,288,774	95.57
Cleveland-Boston.....	67,520	2,417	1,240,983	13.1	4,803	1,337,727	92.77
Denver-Cheyenne.....	10,850	1,116	106,970	1.9	177	224,685	47.60
 Western Air Lines, Inc., Total	520,874	22,806	9,522,697	54.0	17,057	10,797,300	88.20
San Diego-Salt Lake City.....	284,564	10,406	5,093,413	25.9	12,131	5,952,972	85.56
Salt Lake City-Great Falls.....	57,685	2,245	977,462	6.2	994	1,206,314	80.89
Great Falls-Lethbridge.....	9,332	531	107,508	1.5	201	191,438	56.16
Los Angeles-San Francisco.....	169,293	9,624	3,344,314	20.4	3,729	3,444,576	97.09
 Caribbean Atlantic Airlines, Inc., San Juan-Mayaguez and Christiansted..... Total	55,639	3,633	222,098		633	470,170	47.24
 Colonial Airlines, Inc., New York-Montreal..... Total	171,595	10,197	3,243,078	9.2	2,777	3,594,499	90.22
 Hawaiian Airlines, Ltd., Honolulu-Hilo and Port Allen..... Total	99,934	14,081	1,993,450	254.5	37,111	2,169,936	91.87
 Grand Total.....							

¹ The total passengers carried for each airline is an unduplicated figure.

Domestic Air Carrier Statistics—Continued

Operations for First 9 Months of 1945 as Compared with Same Period of 1944

Operator	Revenue miles flown January-September		Revenue passengers carried (unduplicated) January-September		Revenue passenger miles flown January-September	
	1945	1944	1945	1944	1945	1944
All American Aviation, Inc.	1,087,612	883,073	0	0	0	0
American Airlines, Inc.	34,629,128	24,400,246	934,379	666,595	572,021,805	406,560,217
Braniff Airways, Inc.	5,805,576	3,712,510	240,372	153,950	103,664,717	65,692,591
Chicago & Southern Air Lines, Inc.	3,742,702	1,896,148	136,477	71,445	60,984,271	33,475,778
Continental Air Lines, Inc.	2,721,292	1,694,218	85,608	48,183	35,824,312	16,797,229
Delta Air Corporation	4,238,295	2,382,405	195,581	114,127	75,143,447	45,284,256
Eastern Air Lines, Inc.		12,077,538		328,242		184,268,999
Inland Air Lines, Inc.	1,291,490	854,004	43,196	15,066	13,811,502	4,803,518
Mid-Continent Airlines, Inc.	2,273,994	1,652,820	103,976	54,566	28,795,545	15,697,257
National Airlines, Inc.	4,584,506	2,227,536	111,924	81,591	55,563,514	26,821,338
Northeast Airlines, Inc.	1,556,240	737,489	115,284	38,785	25,856,842	9,495,654
Northwest Airlines, Inc.	8,722,180	5,063,296	233,390	122,797	153,426,884	83,047,367
Pennsylvania-Central Airlines Corp.	7,979,763	3,578,268	528,354	284,983	134,370,890	62,546,899
Transcontinental & Western Air, Inc.	23,298,442	15,574,571	405,225	285,985	378,329,017	251,731,076
United Air Lines, Inc.	28,794,496	21,162,190	541,878	369,189	435,321,403	332,121,629
Western Airlines, Inc.	3,906,572	2,148,759	161,700	82,964	70,021,178	39,272,930
Total		100,045,073		2,720,468		1,577,616,738
Index (1944 = 100)		100.00		100.00		100.00
Caribbean Atlantic Airlines, Inc.	256,243	164,114	22,821	15,118	1,401,905	1,046,858
Colonial Airlines, Inc.	1,241,968	718,848	66,613	40,030	20,802,275	12,379,746
Hawaiian Airlines, Ltd.	862,094	698,344	113,816	81,411	16,290,322	11,680,584
Grand Total		101,626,379		2,857,027		1,602,723,926
Index (1944 = 100)		100.00		100.00		100.00

Operator	Express carried (tons) January-September		Express ton-miles flown January-September		Passenger seat-miles flown January-September		Revenue passenger load factor (percent) January-September	
	1945	1944	1945	1944	1945	1944	1945	1944
All American Aviation, Inc.	58.8	52.7	9,141	7,829	0	0	—	—
American Airlines, Inc.	10,786.5	8,066.3	5,464,097	3,709,860	634,250,614	450,331,032	90.19	90.28
Braniff Airways, Inc.	811.3	448.2	386,072	205,379	115,693,235	71,881,574	89.60	91.39
Chicago & Southern Air Lines, Inc.	667.7	388.4	284,988	161,559	77,564,454	39,022,020	78.62	85.79
Continental Air Lines, Inc.	166.5	71.0	77,880	28,759	44,736,570	19,183,420	80.08	87.56
Delta Air Corporation	503.2	341.9	186,482	124,660	88,063,090	49,414,789	85.33	91.64
Eastern Air Lines, Inc.		2,010.1		1,219,178		212,658,868		86.05
Inland Air Lines, Inc.	39.5	17.0	9,359	3,450	10,669,634	6,694,759	72.43	71.75
Mid-Continent Airlines, Inc.	151.4	88.4	45,175	23,626	39,026,025	20,473,303	73.79	76.67
National Airlines, Inc.	203.3	152.6	107,569	52,060	61,686,402	30,695,544	90.07	87.38
Northeast Airlines, Inc.	152.9	45.4	29,361	8,914	35,287,719	15,379,562	73.27	61.74
Northwest Airlines, Inc.	1,149.7	766.7	608,506	408,091	173,386,662	96,760,314	88.49	85.83
Pennsylvania-Central Airlines Corp.	3,033.6	1,762.2	688,215	336,498	164,486,121	74,527,111	81.69	83.93
Transcontinental & Western Air, Inc.	6,751.6	4,853.1	3,531,588	2,547,674	417,772,865	273,229,475	90.56	92.13
United Air Lines, Inc.	4,684.7	3,908.7	3,796,874	2,956,425	455,202,923	344,895,379	90.83	96.90
Western Airlines, Inc.	537.9	326.5	236,960	162,550	79,647,183	44,093,509	87.91	89.07
Total		23,299.2		11,956,512		1,749,240,659		90.19
Index (1944 = 100)		100.00		100.00		100.00		100.00
Caribbean Atlantic Airlines, Inc.		76.7	8,578	5,944	2,610,795	1,457,658	53.70	71.82
Colonial Airlines, Inc.		89.9	25,709	27,875	26,034,262	14,953,412	70.90	82.79
Hawaiian Airlines, Ltd.	2,405.4	2,667.7	364,630	411,019	17,304,696	12,355,296	94.14	94.53
Grand Total		26,132.5		12,401,350		1,778,007,025		90.14
Index (1944 = 100)		100.00		100.00		100.00		100.00

	January	February	March	April	May	June	July	August	September	Total
Passengers carried (unduplicated) total revenue and non-revenue ¹										
16 domestic airlines	363,276	341,980	452,744	458,924	520,257	557,622	599,955	646,988		
Total airlines	379,954	357,125	470,654	476,644	537,564	583,968	639,944	681,970		
Passenger miles flown (total revenue and non-revenue)										
16 domestic airlines	209,288,931	190,324,414	251,170,561	256,892,372	289,846,496	306,872,654	331,639,158	343,889,101		
Total airlines	212,308,947	193,041,242	254,553,089	260,301,209	293,224,437	311,752,948	337,427,431	350,495,973		

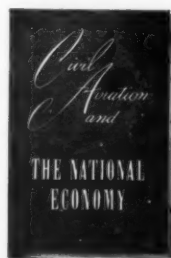
¹ Preliminary. Due to the delay in reporting by some companies, these figures are subject to revision in subsequent publications.

CAA Bird Collision Tests

Available to Private Firms

Testing of special windshields for airplanes, made to withstand collision with birds in flight, may now be done by the Civil Aeronautics Administration for private companies, at a charge of \$100 a day.

At the request of T. P. Wright, Administrator of Civil Aeronautics, Secretary Henry A. Wallace authorized establishment of this fee. The CAA's equipment at the Indianapolis Experimental Station consists of a pneumatic gun which shoots carcasses of chickens at experimental windshields at velocities up to 500 miles an hour. CAA operators of the equipment will be available.



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D. C.

Medical Examination Rule Changed

A revision to the pilots' physical examination report (form ACA1345) has been made permitting a doctor of osteopathy, "licensed to practice under the laws of the state involved" to examine student and private pilots. Hitherto, only medical doctors, M.D., were permitted to conduct these examinations.

Eastern Lines Petition Denied

The Civil Aeronautics Board has denied the petition of Eastern Air Lines, Inc., for reconsideration of its decision in the Jacksonville-Miami nonstop case.



Airline Orders

Service

No. 4051 permits Isabella County Airport and the Cities of Grand Rapids, Traverse City, Flint, Jackson, and Battle Creek, Mich., the City of Fort Wayne and the State of Indiana, the Cities of Dayton, Youngstown and Columbus, Ohio, and the City of Kansas City, Mo., leave to intervene in the Great Lakes Area Case. (Sept. 25)

No. 4052 temporarily exempts American Export Airlines from the provisions of sec. 401(a) of the Civil Aeronautics Act insofar as they would prevent Export from engaging in transportation between New York, N. Y., Foynes, Eire, and Poole, England. (Sept. 26)

No. 4053 rescinds order No. 3463 which temporarily suspended service on Continental Air Lines' route 43 at Garden City, Kans. (Sept. 27)

No. 4054 rescinds that portion of order No. 1759 which temporarily suspended service on Pennsylvania-Central's route 51 between Norfolk, Va., and Knoxville, Tenn. (Sept. 27)

No. 4055 denies petition of the City of Norfolk, Va., for leave to intervene in the Great Lakes Area Case. (Sept. 27)

No. 4056 orders that the application of United Air Lines for an amendment to its certificate, so as to include Sioux City, Iowa, as an intermediate point on route 1, be consolidated into the proceeding known as the Great Lakes Area Case. (Sept. 27)

No. 4065 dismisses, at the request of State Airlines, Owosso Flint Bus Lines, and Indianapolis Railways, their applications for certificates in the proceeding known as the Great Lakes Area Case. (Sept. 27)

No. 4066 denies petition of Air Transit Co., for leave to intervene in the Rocky Mountain Case. (Oct. 2)

No. 4067 dismisses application of Cordova Air Service for an order granting temporary exemption from the provisions of sec. 401(a) of the Act. (Oct. 2)

No. 4068 permits the Port of New York Authority to intervene in the proceeding known as the Pacific Case. (Oct. 2)

No. 4069 permits the City of Pawhuska, Okla., to intervene in the proceeding known as the Texas-Oklahoma Case. (Oct. 2)

No. 4070 dismisses, upon the request of Virginia Central Air Lines, their application for a certificate in the Southeastern States Case proceeding. (Oct. 2)

No. 4070 denies application of Northern Airways for a temporary exemption order authorizing it to engage in transportation in Alaska. (Oct. 2)

No. 4073 orders that Delta Air Corp. be notified that the national defense no longer requires a delay in the inauguration of service to and from the newly authorized points on its route 54. (Oct. 2)

No. 4074 orders that the certificate of Braniff Airways for route 15 be modified by striking the condition that Denver, Colorado Springs, and Pueblo, Colo., shall be served only on flights originating and terminating at Fort Worth-Dallas, Texas, or points south thereof, and inserting the condition that the carrier shall serve Denver, Colorado Springs, and Pueblo only on flights originating or terminating at Oklahoma City, Okla., or Fort Worth-Dallas or points south or east thereof on route 15. (Issued with an opinion—Oct. 2)

No. 4075 denies Eastern Air Lines' petition for reargument and reconsideration of Board order and opinion No. 3739 which approved National Airlines' application for authority to inaugurate nonstop service between Jacksonville and Miami, Fla. (Issued with an opinion—Oct. 2)

No. 4076 permits American Airlines to inaugurate nonstop services on Sept. 30 between Nashville, Tenn., and Roanoke, Va.; between Roanoke and Washington, D. C.; and between Bristol and Lynchburg, Va. (Oct. 3)

No. 4077 consolidates the application of International Airways for a certificate into the proceeding known as the Great Lakes Area Case—Docket 535 et al. (Oct. 3)

No. 4078 grants the Cities of Kalamazoo, Mich., and Springfield and Findlay, Ohio, leave to intervene in the Great Lakes Area Case. (Oct. 3)

No. 4079 denies the Chamber of Commerce of Evansville, Ind., leave to intervene in the Great Lakes Area Case. (Oct. 3)

No. 4080 grants Trans-Canada Air Lines a foreign air carrier permit authorizing scheduled transportation of persons, property, and mail between Whitehorse, Yukon Territory and Fairbanks, Alaska, subject to certain conditions. (Issued with an opinion—signed by the President Oct. 3)

No. 4081 consolidates various applications into the Mississippi Valley Case; grants 18 petitions for leave to intervene in the same proceeding; amends paragraph 16 of order No. 3062 which concerns Spartan Airlines. (Oct. 4)

No. 4082 rescinds order No. 4029 which temporarily suspended service by Continental Air Lines at Hutchinson, Kans., Las Vegas, N. Mex., and La Junta, Colo. (Oct. 5)

No. 4083 permits Continental Air Lines to inaugurate on Oct. 1 nonstop service between Pueblo, Colo., and Santa Fe, N. Mex., and between Pueblo and Hutchinson, Kans. (Oct. 5)

No. 4084 exempts Geo. S. Schwamm, doing business as Petersburg Air Service, from the provisions of sec. 401 of the Act insofar as they would otherwise prohibit him from engaging in transportation of persons and property, except mail, between the terminal points Wrangell, Alaska, and Telegraph Creek, British Columbia, Canada. (Oct. 5)

No. 4086 denies petition of Owensboro Chamber of Commerce, Ky., for leave to intervene in the proceeding known as the Great Lakes Area Case. (Oct. 9)

No. 4089 grants the City of Zanesville, Ohio, permission to intervene in the Great Lakes Area Case. (Oct. 9)

No. 4090 dismisses, upon the request of Southwestern Air Freight and Express Airlines, their applications for certificates. (Oct. 9)

No. 4091 amends Board order No. 3841, which consolidated various applications for certificates proposing service in the

Middle Atlantic Area, by making other applications a part of the proceeding; also severs those applications proposing service of through character from Detroit to Cleveland to Boston, New York or Philadelphia. (Oct. 9)

No. 4092 grants the City of Lancaster, Pa., the City of Jamestown, N. Y., the State of Rhode Island, and the Baltimore City Aviation Commission, leave to intervene in the Middle Atlantic Area proceeding—docket 674 et al. (Oct. 9)

No. 4093 makes the application of Southern Commercial Air Transport a part of the Mississippi Valley Area proceeding—Docket 548 et al. (Oct. 9)

No. 4103 grants the City of Sault Ste. Marie, Mich., leave to intervene in the Great Lakes Area Case—Docket 535 et al. (Oct. 15)

No. 4104 grants the City of Piqua, Ohio, leave to intervene in the Great Lakes Area Case. (Oct. 15)

No. 4107 permits Chicago and Southern Airlines to inaugurate on Oct. 15, nonstop service between Detroit, Mich., and Fort Wayne, Ind., on route 53. (Oct. 15)

No. 4108 denies petitions filed by National Airlines and Pennsylvania-Central Airlines for rehearing, reargument and reconsideration of Board opinion and order No. 3916—Great Lakes to Florida Case; also denies petitions to intervene of the Cities of Youngstown, Ohio, Erie, Pa., Rochester, N. Y., and Lansing, Grand Rapids, Traverse City, Muskegon, Mich., Buffalo, N. Y., and Allegheny County, Pa. (Oct. 16)

No. 4109 grants the City of Fairbanks, Alaska, permission to intervene in the Pacific Case—Docket 547 et al. (Oct. 16)

No. 4110 grants the City of Twin Falls, Idaho, and denies the Twin Falls Chamber of Commerce of Twin Falls, Idaho, permission to intervene in the West Coast Case—Docket 250 et al. (Oct. 17)

No. 4111 terminates the authorization contained in the amended certificate of American Airlines to engage in transportation to and from Long Beach, Calif., on route 5 on a flagstop basis with respect to persons enrolled in or employed by the armed forces; revokes orders dated July 19, and Aug. 26, 1943, which temporarily exempted the airline from the provisions of sec. 401(a) of the Act with respect to service to Palm Springs. (Oct. 17)

No. 4113 denies application of Atlantic-Western Airlines for an exemption from the provisions of sec. 401 of the Act, the application alleged the provisions would prevent the airline from extending its operations under its intrastate authority from the Virginia State Corp. Commission. (Oct. 18)

No. 4114 makes the application of Mid-Southern Air Lines a part of the proceeding known as the Mississippi Valley Case. (Oct. 18)

No. 4115 grants the City of Baker and denies Baker County Chamber of Commerce, Baker, Oregon, permission to intervene in the West Coast Case—Docket 250 et al. (Oct. 18)

No. 4116 authorizes Pan American Airways to suspend service temporarily at Pointe a Pitre, Guadeloupe, and Fort de France, Martinique, for 90 days. (Oct. 18)

No. 4117 authorizes public disclosure of certain proceedings concerning application of Overseas Airways Corp., as the need for confidential treatment no longer exists. (Oct. 18)

Miscellaneous

No. 4057 approves an agreement by and between All American Aviation, and certain other carriers as members of the Air Traffic Conference of America, relating to Air Traffic Conference Agency Resolution. (Sept. 27)

No. 4064 extends period of suspension for Universal Air Travel Plan Tariff No. 2, Agent M. F. Redfern's CAB No. 6, from and after Sept. 28, 1945, to and including Dec. 27, unless otherwise ordered by the Board. (Sept. 28)

No. 4071 denies motion of Page Airways to dismiss, for want of jurisdiction, the proceeding concerning certain activities of Page Airways. (Oct. 2)

No. 4085 dismisses, upon the request of Air Line Pilots Association, their complaint vs. National Airlines. (Oct. 8)

No. 4086 approves an agreement by and between Braniff Airways and Chicago and Southern Air Lines relating to air conditioning of Chicago and Southern planes by Braniff, at Houston, Tex. (Oct. 8)

No. 4087 directs The Aviation Corp. to show cause, on or before Oct. 15, why the Board should not order and require the Corporation to divest itself of control of American Airlines by reducing, on or before July 31, 1946, its ownership, legal and equitable, of the voting stock of American, to a proportionate interest not greater than 4% of the total amount of stock outstanding. (Oct. 9)

Airman Orders

Suspensions

No. 4060 suspends for 6 months, student certificate of Billy F. Chapman for flying in the vicinity of Martin Springs, Tex., at an altitude of less than 500 feet. (Sept. 28)

No. 4061 suspends for 90 days, student certificate of Mozelle Y. Henderson for permitting a person to operate her plane and carry a passenger, without first ascertaining that the person held a currently effective certificate. (Sept. 28)

No. 4099 suspends for 90 days, private certificate of Gregory H. Osborn because he flew at an altitude of less than 1000 ft. over a congested area of Sublette, Kans. (Oct. 10)

No. 4100 suspends for 90 days, commercial certificate of Santiago Gonzalez because he flew approximately one mile west of the Lantana Airport, Lantana, Fla., at an altitude of less than 500 ft. (Oct. 10)

No. 4101 suspends commercial certificate of W. R. Gillette for 4 months because he flew at an altitude of less than 500 feet in the vicinity of Milford, Iowa; Gillette also violated other provisions of the Civil Air Regulations. (Oct. 10)

Revocations

No. 4058 revokes commercial certificate with flight instructor rating of Henry A. Duncan because he flew recklessly and dangerously low over the solarium of a hospital and over a congested area, both within Fort Yukon, Alaska; in addition, he was under the influence of intoxicating liquor. (Sept. 28)

No. 4059 revokes private certificate of Donald T. Speirs because he represented in writing that he had been a member of the armed forces within the preceding 12 months and had served on solo flight status for 6 consecutive months when such was not the case. Speirs also violated other provisions of the Civil Air Regulations. (Sept. 28)

No. 4062 orders Karl Barge Wiemann to show cause why order No. 3992, which revoked his student certificate, should not be amended to revoke his private certificate also. (Sept. 28)

No. 4063 revokes student certificate of David Bovarsky because he carried a passenger other than an instructor and violated other provisions of the Civil Air Regulations. (Sept. 28)

No. 4094 revokes student certificate of Frank Hall because he piloted an aircraft and carried a passenger, in or near the vicinity of the Butler Airport, West Plains, Mo., when neither he nor his passenger were properly certificated for such operations. (Oct. 10)

No. 4095 revokes student certificate of George W. McElphiney, III, because he flew in or near the vicinity of the Butler Airport at West Plains, Mo., at an altitude of less than 500 feet and violated other provisions of the Civil Air Regulations. (Oct. 10)

No. 4096 revokes student certificate of Robert J. Noland because he flew acrobatically and carried a passenger; Noland also violated other provisions of the Civil Air Regulations. (Oct. 10)

No. 4097 revokes private certificate of Jc Wilkens because he flew in or near the vicinity of Great Bend, Kans., at an altitude of less than 500 feet and violated other provisions of the Civil Air Regulations. (Oct. 10)

No. 4098 revokes student certificate of Bernie H. Graeber because he performed acrobatic maneuvers at an altitude of less than 1000 feet over a congested part of the City of Des Moines, Iowa. (Oct. 10)

No. 4101 revokes student certificate of Jimmy A. Ritter because he failed to report an accident without delay and violated other provisions of the Civil Air Regulations. (Oct. 15)

Miscellaneous

No. 4102 orders that the proceeding concerning revocation of New York Reid's air agency certificate and suspension of his flight instructor rating be assigned for oral argument before the Board on Oct. 19. (Oct. 12)

No. 4105 denies request of Frank H. Werner for reconsideration of the Board order which revoked his private certificate. (Oct. 15)

No. 4112 changes date for oral argument in the proceeding concerning Harry A. Grant who holds a commercial certificate. (Oct. 18)

Regulations

Reg. 319-C.....Effective Oct. 8, 1945

Extending the effective period of Special Civil Air Regulation Serial Number 319—Noncompliance with the Requirements of § 40.2611(b) of the Civil Air Regulations—Special Civil Air Regulation Serial Number 319 is amended by striking the words "October 8, 1945" and inserting in lieu thereof the words "October 8, 1946".

Note: The termination date of this regulation was previously extended to October 8, 1945, by Special Civil Air Regulation Serial Number 319-B.

Reg. 346.....Effective Oct. 11, 1945

DC-4 (C-54E) Type Airplanes—Notwithstanding the provisions of Part 94 of the Civil Air Regulations, DC-4 (C-54E) type airplanes are authorized for use in scheduled air transportation with the following exceptions to Part 94:

1. A master switch disconnecting all sources of electrical power from the electrical distribution system of the airplane will not be required.

2. A maximum take-off gross weight of 61,100 pounds may be authorized when there are no fuel dump chutes installed on the aircraft.

This regulation shall terminate February 1, 1946.

Lands Against Traffic at Airport

A landing collision at Pendleton Airways Field, Pendleton, Ore., resulted in extensive damage to two aircraft, minor injuries to the occupants of one, and serious injuries to the pilot of the other. In the first, were pilot Ray Eddy Fayne and his wife. Pilot Weber J. English was alone in the second plane.

Fayne, a private pilot rated to fly single-engine land aircraft up to 80 hp, had flown about 79 solo hours. English, a certificated student pilot, had flown about 26.

The two aircraft landed in opposite directions on the east-west runway. English landed toward the east and had rolled about 100 feet. Fayne landed toward the west and had rolled only a few feet when the two craft met head-on and became interlocked.

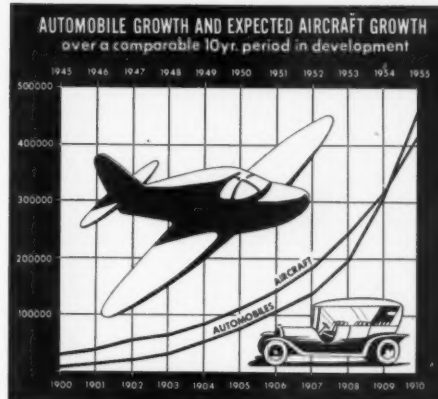
The wind was about 4 mph from the west. A landing tee and a wind sock had shown this direction when Fayne took off toward the west from the field about 50 minutes before the accident. During his absence the field management had turned the tee in the opposite direction because it was better to land toward the east with a light wind than toward the west into a low glaring sun. Traffic was controlled by a manually operated tee, not by a control tower.

AIR REGULATIONS . . . As of November 1, 1945

TITLE	PART No.	PRICE		DATE LATEST EDITION		No. AMENDMENTS ISSUED	
		Part	Manual	Part	Manual	Part	Manual
Aircraft							
Airworthiness Certificates	01	\$0.05	None	10/15/42	None	1 ¹	
Type and Production Certificates	02	.05	\$0.10	3/1/41	3/15/45		
Airplane Airworthiness	04	.15	.45	11/1/43	7/1/44	3 ²	
Engine Airworthiness	13	.05	None	8/1/41	None		
Propeller Airworthiness	14	.05	.15 ⁷	7/15/42	6/1/45		
Equipment Airworthiness	15	Free	(⁹)	4/15/44	7/1/38		
Radio Equipment Airworthiness	16	.05	Free	2/13/41	2/13/41	1	
Maintenance, Repair, and Alteration of Aircraft, Engines, Propellers, Instruments	18	.05	.50	9/1/42	6/1/43		
Airmen							
Pilot certificates	20	.05	None	7/1/45	None	3	
Airline Pilot Rating	21	.05	None	10/1/42	None		
Lighter-than-air Pilot Certificates	22	.05	None	10/15/42	None	1	
Mechanic Certificates	24	.05	None	7/1/43	None	1(⁹)	
Parachute Technician Certificates	25	.05	None	12/15/43	None	1	
Traffic Control Tower Operator Certificates	26	.05	None	2/1/44	None	2	
Aircraft Dispatcher Certificates	27	.05	None	10/1/43	None	2	
Physical Standards for Airmen	29	.05	None	6/1/42	None	3	
Operation Rules							
Air Carrier Operating Certification	40	.10	None	10/10/44	None	2	
Scheduled Air Carrier Operations Outside Conti- nental U. S.	41	Free	None	9/1/45	None		
General Operation Rules	43	.05	None	7/1/45	None	3	
Foreign Air Carrier Regulations	44 ⁴	.05	None	7/1/45	None		
Transportation of Explosives and other Dangerous Articles	49	.05	None	7/1/45	None		
Air Agencies							
Flying School Rating	50	.05	Free	11/1/40	12/40	3	2
Ground Instructor Rating	51	.05	None	12/15/43	None	1	
Repair Station Rating	52	.05	(⁹)	10/1/42	2/41		
Mechanic School Rating	53	.05	(⁹)	8/1/42	5/40		
Parachute Loft Certificates and Ratings	54	.05	None	1/21/43	None		
Air Navigation							
Air Traffic Rules	60	.05	.15	8/1/45	8/1/43	1	
Scheduled Air Carrier Rules	61	.10	None	2/1/44	None	5 ⁴	
Miscellaneous							
Rules of Practice Governing Suspension and Revo- cation Proceedings	97	Free	None	7/6/45	None		
Definitions	98	.05	None	10/15/42	None		
Mode of Citation	99	Free	None	11/15/40	None		
Regulations of the Administrator							
Aircraft Registration Certificates	501	Free	None	3/31/43	None		
Recordation of Aircraft Ownership	503	Free	None	3/31/43	None		
Seizure of Aircraft	531	Free	None	12/8/41	None		
Regulations Governing the Distribution and Use of Aviation Gasoline	534	Free	None	9/16/44	None		

¹ Special regulation 233. ² Special regulations 228 and 342. ³ Special regulation 340. ⁴ Supersedes Part 66. ⁵ Out of stock. ⁶ Special regulation 342. ⁷ Obtain Manual 14 from CAA Office of Aviation Information, A-240, Dept. of Commerce, Washington 25, D. C.

Note: Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances must be by cash or by money order, payable to the Superintendent. Free Parts are obtained from the Publications Section, Civil Aeronautics Board, Washington 25, D. C.; and the free Manuals and Regulations of the Administrator from the CAA Office of Aviation Information, Dept. of Commerce, Washington 25, D. C.



Aviation Jobs

(Continued from first page)

pendable engines, a more comfortable arrangement of the body, and the pneumatic tire; and the gradual construction of highways to replace the rutted, hub-deep muddy country roads."

This growth was achieved with a population of only 94 million, and an average American income of only \$938 a year. In 1955, the report estimates there will be 2,800,000 families who can afford to operate both an airplane and an automobile. The CAA prediction of 400,000 civil aircraft is therefore offered as "an ultra-conservative estimate."

Annual passenger revenue of about \$345,000,000 is forecast for the airlines, which would take 5 percent of the total amount expected to be spent on all forms of "for-sale" transportation services. Airline traffic would represent 50 percent of Pullman passenger mileage, but it is said that "bulk freight-hauling business, which is the main source of income to surface carriers, would be virtually untouched."

Money spent by the 2,000,000 Americans expected to fly abroad each year, the book points out, "would provide a large portion of the dollar credits needed if we are to enjoy a healthy foreign trade."

Tends Toward Decentralization—Aviation growth will affect our entire way of living, it is predicted. It will contribute to both industrial and residential decentralization; widen markets for perishable agricultural products; increase foreign trade and promote international understanding, and step up the total amount of traveling done by Americans. "Civil Aviation and the National Economy" describes the prewar civil aviation industry and its wartime changes, reviews past Federal aid, estimates the 1955 growth potential of all branches, and outlines a government program of assistance. It contains appendices giving detailed studies of the 1955 aviation employment outlook and the 1955 market for personal aircraft, plus 61 statistical reference tables.

Published in two colors and illustrated with 27 pictographs, the book is for sale by the Superintendent of Documents, Government Printing Office, for 55 cents.

Predicts Surface Transportation Gain

Instead of suffering from air competition, surface transportation is going to gain, says Captain Eddie Rickenbacker, president and general manager of Eastern Airlines. "Railroads, steamships and bus lines are going to experience the greatest rush of business in their history as the great network of cargo and passenger carrying airlines increases in size and efficiency during the coming 5 to 10 years," Rickenbacker is quoted as saying.

Advisory Committee Opposed To Charter-Flier Regulation

Approval of the standardization of state aviation laws and disapproval of proposals for economic regulation of non-scheduled air carriers were the principal actions of the Civil Aeronautics Administration's Non-Scheduled Flying Advisory Committee at its recent meeting in Denver.

Members also discussed the proposed new Part 42 of the Civil Air Regulations which deal with the planes and pilots used by non-scheduled operators. They agreed such regulations are necessary for proper safeguards in operation of such services, but were not in accord with all the sections proposed. Those parts of the proposed regulations which are economic in their effects were generally disapproved, and those which refer to safety in flight were approved.

The Committee commended the CAA and the industry in the advances made recently in selection of frequencies and equipment for radio for the private fliers' planes.

Crash in Everglades Kills Four

A cross-country night flight under conditions of extremely poor visibility ended in a crash in the Florida everglades approximately 6 miles west-southwest of Moore Haven, Fla. Pilot James Edward Mitchell, of Tampa, and three revenue passengers, were fatally injured and the aircraft demolished. The passengers were John P. Stewart of Panama City, Elton Leon Cannon, of Miami, and Walter R. Pringle, of Bay Village, Ohio.

Mitchell, a commercial pilot with single-engine land, 0-240 hp and flight instructor ratings, had flown about 2655 hours, including 9 in the type plane involved and 2½ of night flying.

He took off from the Tampa Airport for a charter flight to Miami, 240 miles distant. Approximately three hours after the plane's departure from Tampa, Jacksonville Airway Traffic Control requested an arrival confirmation. When the four-hour fuel supply time had elapsed, the plane was declared missing. Two days later the wreckage was located from the air near Lake Okeechobee about 112 miles from Tampa.

Loss of control of the aircraft, under conditions in which the pilot was not qualified to fly, was probably responsible for this crash.

Advances by CAA in Traffic Control Are Outlined by Division Chief Gilbert

Notable advances have been made by the Civil Aeronautics Administration in air traffic control during the ten years in which this art has been developed and as a result, U. S. procedures are becoming a world-wide model, according to Glen Gilbert, Chief of CAA Air Traffic Control Division.

Discussing the improved facilities now available for preventing air collisions and making possible safe and speedy traffic around airports, Mr. Gilbert calls attention to Very High Frequency Ranges; instrument landing systems for navigation; complete land line systems for transmission of air traffic control data, Notice to Airmen, weather information; and establishment of standard operating procedures which includes approach control for expediting landing of aircraft in instrument weather conditions.

Maintaining Efficiency—In addition, a training program has been established to maintain a peak efficiency of operating personnel. Our armed forces, with the technical assistance of the Civil Aeronautics Administration, has spread the United States air traffic control methods in foreign lands wherever our aircraft have flown in substantial numbers.

"Many areas established for the control of air traffic outside continental United States no doubt will continue," Mr. Gilbert said, "in the postwar period for the protection of United States flag aircraft in international air commerce.

"The control system now operating in the United States consists of 35,000 miles of civil airways, and its development by the CAA covers a decade in the history of both civil and military aviation."

Continuing, Mr. Gilbert pointed out, "at the International Civil Aviation Conference held in Chicago during November 1944, the United States presented for consideration two proposed technical annexes—one, 'Rules of the Air' and the other, 'Air Traffic Control Practices'. These documents were accepted by the representatives of the other countries at the conference with only minor changes, and it appears that the principles and standards set forth therein will constitute the basis for world-wide postwar air traffic control.

"Air traffic control must be considered in its two fundamental categories—regulations and implementation. The domestic air traffic regulations are prescribed by the Civil Aeronautics Board and are known as the Air Traffic Rules, Part 60 of the Civil Air Regulations.

"The revised Air Traffic Rules which became effective August 1 are arranged in two sets of flight rules—Contact Flight Rules and Instrument Flight Rules."

Contact Flight Rules—"These are 'general rules of the road' governing such matters as right-of-way, minimum safe altitudes, reckless flying and operation on and in the vicinity of airports. In addition, these rules prescribe minimum visibilities and proximities to clouds which a pilot must observe unless he conducts flight in accordance with the Instrument Flight Rules."

Instrument Flight Rules—"When a flight is conducted closer to the clouds or with less visibility than the minimums prescribed under Contact Flight Rules, the pilot must comply with the Instrument Flight Rules. These require that he be qualified as an instrument pilot and that his aircraft be suitably equipped, depending upon the ground facilities which he will use. With the shift from low frequency to very high frequency (VHF) air navigation and communication facilities which is now under way, some aircraft will continue to use low frequency facilities during the transitional period while others will gradually become equipped to use the VHF facilities."

Control Service—"The air traffic control service

Tower Man At His Screen Directs Traffic



The air traffic control operator in the airport tower is one of the most important men in aviation. His good judgment and ability to think quickly are steadily utilized.

provided by the CAA is afforded to all classes of aircraft and consists of airport or 'local' control and airway or 'en route' control."

Discussing control methods at airports Mr. Gilbert said: "Airport traffic control is provided from control towers overlooking the airport and surrounding area. Today the CAA operates airport traffic control towers at 105 major civil airports throughout the United States. Several hundred additional control towers are operated by the Army and Navy at military air bases. Airport traffic control provided by CAA, Army and Navy control towers is in accordance with joint airport traffic control procedures formulated several years ago.

"The basic traffic control provided by all control towers is known as 'visual' or local control. The airport controller visually observes the operation of aircraft on and in the vicinity of the airport and regulates traffic flow so as to insure a safe and orderly movement of aircraft while landing, taxiing and taking off.

"A more recent development in airport traffic con-

trol is known as 'approach control' (also referred to as 'instrument control'). The CAA is now completing establishment of approach control at 50 of its control towers located at major civil airports. Under this system, the control tower regulates aircraft while holding and during the approach to the airport during instrument weather conditions.

"By means of straight-in approaches from a 75 megacycle fan marker located on the approach course of the low frequency radio range, and as a result of direct communication between the airport controller and the pilots holding and making approaches, aircraft can be landed in instrument weather at a rate three times greater than that possible under conventional approach procedures which can land only one aircraft every 12 minutes."

Airway Traffic Control—"CAA landline communication facilities provided for air traffic control communications consist of 31,700 miles of teletype lines and 36,800 miles of interphone (leased telephone (See *Air Traffic Control*, page 127)

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